

# *POMADERRIS BREVIFOLIA* (RHAMNACEAE), A NEW SPECIES FROM SOUTH-WEST WESTERN AUSTRALIA

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## ABSTRACT

Walsh, N.G. *Pomaderris brevifolia* (Rhamnaceae), a new species from south-west Western Australia. *Muelleria* 8(2): 107–111 (1994). — A new species *Pomaderris brevifolia* N.G. Walsh, formerly included in *P. myrtilloides* Fenzl, is described and illustrated. *P. myrtilloides* is circumscribed and contrasted with the new species.

## INTRODUCTION

The name *P. myrtilloides* Fenzl has been applied to a varied assemblage of shrubs, mostly occurring on limestone or lateritic substrates or on sand dunes near the southern coast of Western Australia, extending from Albany eastward to near Eucla on the South Australian border. *P. myrtilloides sens. lat.* has most readily been distinguished from other Western Australian species of *Pomaderris* in having flowers with narrow-linear petals. Other petaloid species of *Pomaderris* in Western Australia have distinctly obovate or spatulate petals. Considerable variation in leaf shape, size and indumentum has been attributed to *P. myrtilloides*, but field observation and examination of herbarium specimens indicates the existence of two entities, readily separable on foliar, floral and fruit characters.

## TAXONOMY

*Pomaderris brevifolia* N.G. Walsh, *sp. nov.*

*P. myrtilloide* Fenzl affinis foliis parvioribus, crassis, margine recurvatis vel revolutis, inflorescentibus et floribus minoribus, et sepalis persistentibus differt.

**TYPUS:** Western Australia, south-west, Susetta River, 34°00'S, 119°27'E, 13 July 1970, A.S. George 10000 (HOLOTYPE: MEL; ISOTYPE: PERTH)

*Slender shrub*, to c. 1.5 m high. *Young branchlets*, petioles and pedicels covered with pale, short, semi-appressed silky hairs. *Stipules* paired, fused toward base, narrowly triangular, c. 1 mm long, silky pubescent on abaxial surface, glabrous adaxially. *Leaves* shortly petiolate, lamina obovate, cuneate or obcordate, 3–7 mm long, 2–4 mm wide; apex rounded, truncate or retuse, the midvein commonly minutely exserted; lateral veins not apparent; upper surface smooth and glabrous, or with a line of short hairs along the impressed midvein, or (rarely) shortly hispid over the entire surface; lower surface densely covered by a mat of fine stellate hairs, overlain by short appressed or slightly spreading simple hairs; margins thickened or recurved to revolute, forming a conspicuous border around the lower surface. *Inflorescence* an umbel-like cyme, to c. 15 mm diam., with c. 10–20 flowers; pedicels 2–5 mm long, subtended by stipule-like bracts. *Flowers* cream to pale pink; sepals 1.3–2 mm long, silky pubescent abaxially, glabrous adaxially; petals linear to narrowly oblanceolate, 0.8–1.2 mm long, 0.1–0.3 mm wide, usually glabrous, sometimes with a few appressed silky hairs on the abaxial surface. *Stamens* shortly exceeding petals; anthers 0.3–0.5 mm long. *Style* 0.7–1 mm long, 3-lobed apically, the lobes to 0.3 mm long. *Ovary* summit densely covered by short erect simple hairs, encircled by a raised glabrous rim. *Capsule* obovoid, 3.5–4.5 mm long, exserted for about 1/2 of its length from the level of

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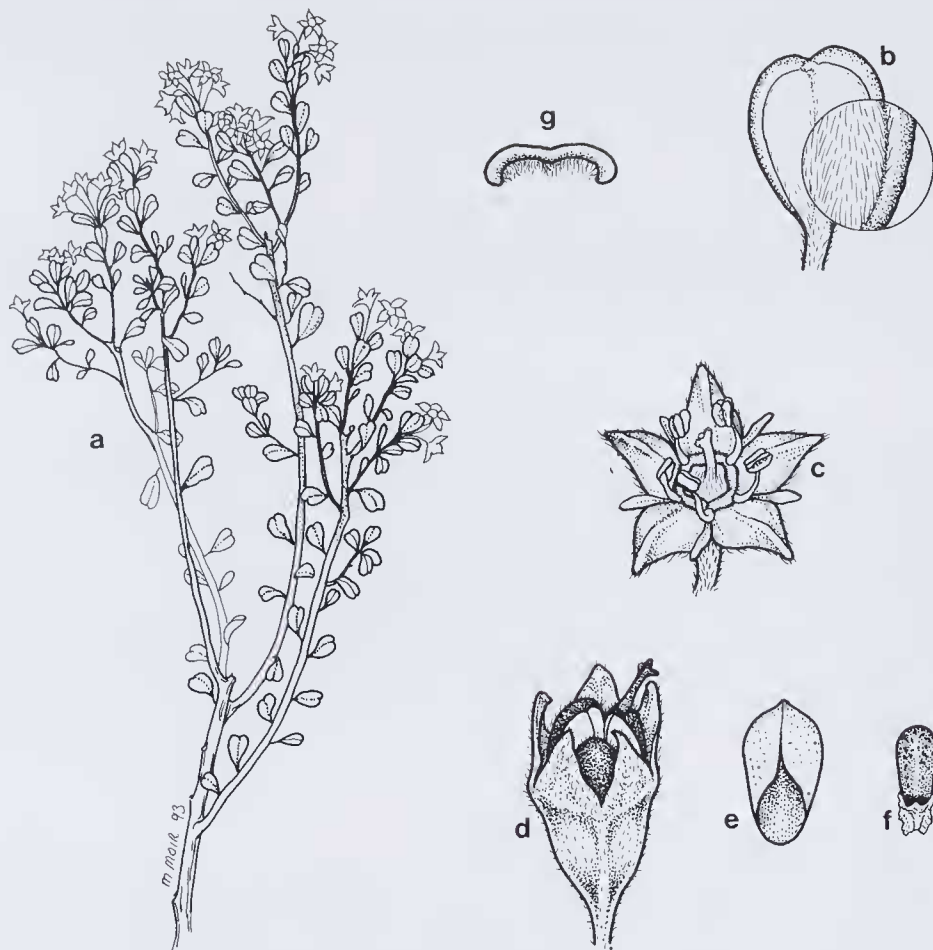


Fig. 1. *Pomaderris brevifolia*. a — flowering branch  $\times 1$ . b — abaxial surface of leaf  $\times 5$ , with enlargement  $\times 10$ . c — flower  $\times 5$ . d — mature capsule  $\times 5$ . e — coccus of mature capsule viewed from inner face  $\times 5$ . f — seed, dorsal view  $\times 5$ . g — leaf transverse section  $\times 5$ . a-c from *A.S.George 10000* (MEL), d-g from *R.D.Spencer 430* (MEL).

insertion of the sepals, obscurely 5-angled in the lower part; sepals persistent in fruit. *Seed* flattened oblong-ovoid, c. 2 mm long, with a short basal aril. (Fig. 1)

#### REPRESENTATIVE SPECIMENS (33 specimens examined)

*Western Australia* — From Israelite Bay to Eyre relief sand flares, 1863, *Maxwell* (MEL); E side of Mt Desmond, SE of Ravensthorpe, 21 Apr. 1962, *A.S.George 3665* (PERTH); Mt Short, c. 8 miles [c. 13 km] NNW of Ravensthorpe, 25 May 1963, *A.S.George 4444* (PERTH); Gordon Inlet, 18 Apr. 1965, *K.Newbey 1788* (PERTH); SE of Mt Ragged, 20 Jan. 1966, *A.S.George 7452* (PERTH); 4 miles [c. 6.5 km] S of Bluff Knoll, 1 May 1966, *K.Newbey 2431* (PERTH); 19 miles [c. 30.5 km] NW of Bremer Bay, 9 Mar. 1970, *A.S.George 9844* (PERTH); W of lower Fitzgerald R., 12 July 1970, *A.S.George 9943* (PERTH); Wittenoom Hills, 9 June 1972, *T.Daniells* (PERTH); Cape Arid National Park, 19 Sep. 1976, *R.J.Hnatiuk 761078* (PERTH); 9 km N of Gibson, 14 Mar. 1983, *A.Strid 22423* (PERTH); Fitzgerald R. National Park, Point Ann Rd, 8 Nov. 1989, *R.D.Spencer 430* (MEL, CANB).

#### DISTRIBUTION AND CONSERVATION STATUS

*Pomaderris brevifolia* has been recorded from near Bluff Knoll in the Stirling Range eastward to near Mt Ragged inland from Israelite Bay. Unlike *P. myrtilloides*, it appears to occur rarely very near the coast and occurs up to 50 km or more inland (e.g. in the Stirling Range, Ravensthorpe and Gibson areas). It does

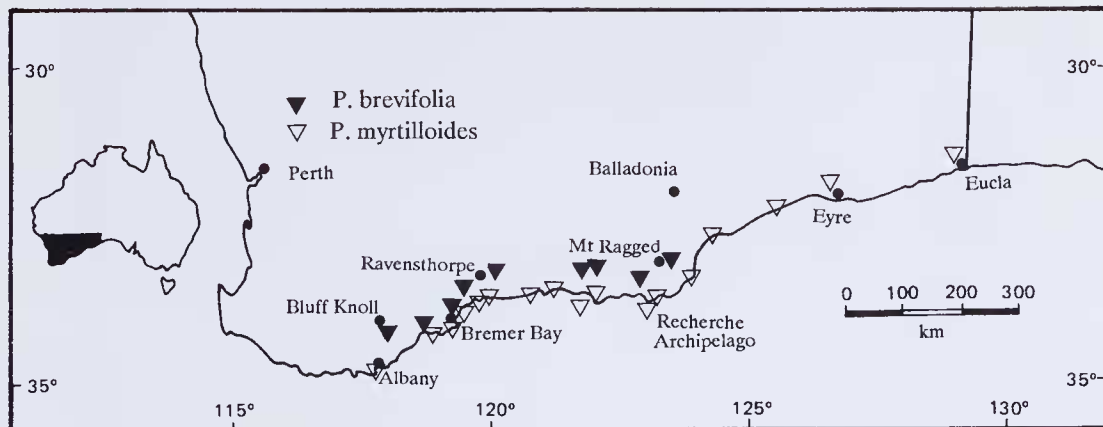


Fig. 2. Distribution of *Pomaderris brevifolia* and *P. myrtilloides*.

not appear to be rare, and is represented in the Stirling Range, Fitzgerald River and Cape Arid National Parks. (Fig. 2)

#### HABITAT

*Pomaderris brevifolia* is an occasional component of mallee scrub and open heath, commonly on laterite-rich clay soils, amongst rocks or, less commonly, on sandy substrates. Most occurrences are away from areas of direct coastal influence, the most nearly coastal collections being from beside large protected inlets or estuaries (e.g. Beaufort Inlet, Wellstead Estuary, Gordon Inlet).

#### ETYMOLOGY

The specific epithet of the new species refers to its small leaves, the smallest of any Western Australian *Pomaderris* and amongst the smallest known for the genus.

#### NOTES

Although closely related to the more widespread *P. myrtilloides* (which extends along the coast from Albany almost to the South Australia border), *P. brevifolia* is distinguished by its smaller leaves which have conspicuously thickened, recurved or revolute margins. Variants of *P. brevifolia* with leaves shortly hispid above have no equivalent in *P. myrtilloides*, although forms of the latter exist with leaves either glabrous or stellate-pubescent on the adaxial surface (see below). The inflorescences and flowers of *P. brevifolia* are smaller. The few fruiting specimens of *P. brevifolia* available show the sepals to be persistent in fruit and the capsule exserted for about 1/2 its length, unlike fruiting specimens of *P. myrtilloides* in which the sepals fall before the fruit matures and the capsule is exserted for about 2/3 of its length.

Most material of *Pomaderris brevifolia* at PERTH had been segregated from *P. myrtilloides* and tentatively determined as '*Pomaderris* sp. 1'.

#### CIRCUMSCRIPTION OF *POMADERRIS MYRTILLOIDES*

In the protologue of the species, Fenzl (1837: 22) described the leaves of *P. myrtilloides* as being under one inch ('*foliis uncia brevioribus*'), obovate, with apices entire and rounded or retuse, glabrous on the upper surface and with dense, short tomentum on the lower surface, stems and flowers. The inflorescence is described as a small terminal corymbose cyme, and the flowers as having narrow, linear-lanceolate, entire and bearded petals.



Mueller (1862: 69) described *P. stenopetala* from specimens collected by Oldfield at Point Henry (near Bremer Bay), agreeing with Fenzl's description in all but leaf shape (ovate to ovate-lanceolate) and dimension ( $2/3$ – $1\ 1/3$  inches). Surprisingly, in his description he made no reference to Fenzl's *P. myrtilloides*.

Bentham's (1863: 419) description of *P. myrtilloides* gives the leaves varying 'from obovate to obovate-oblong, very obtuse or almost acute, slightly emarginate, mostly about  $1/2$  in. long, in the original specimens . . . glabrous above and quite entire'. There is no reference to the petals being bearded or otherwise as noted by Fenzl and Mueller. Bentham's description is followed by a brief diagnosis of a new variety *major*, with 'leaves larger, often 1 in. long; flowers larger' equating it with Mueller's *P. stenopetala* and citing the same type specimen.

The type specimen of *P. myrtilloides* is a twig in bud, with obovate leaves, obtuse or truncate at the apex, 8–12 mm long and c. 4–7 mm wide, glabrous on the adaxial surface and with a dense indumentum of fine stellate hairs overlain by short silky simple hairs on the abaxial surface.

Examination of herbarium material of *P. myrtilloides* at PERTH, CBG and MEL indicates a continuum of leaf and flower sizes from those represented by the type through to those which would accord with *P. stenopetala* F. Muell. (= *P. myrtilloides* var. *major* Benth.). Within the range of leaf sizes exist specimens with leaves adaxially glabrous and others with leaves finely stellate-pubescent on the adaxial surface — the latter form not hitherto included in descriptions of *P. myrtilloides*. Specimens at PERTH with adaxially hairy leaves had been segregated as potentially an undescribed entity, but in the absence of other correlating characters, I regard these as merely variants. The habitats and ranges of both variants appear to be largely overlapping, with the adaxially pubescent form perhaps more common on deep sand and the adaxially glabrous form more common on limestone-derived substrates.

The nomenclature and a brief description of *Pomaderris myrtilloides* follows. Only those features which differ substantially from *P. brevifolia* are indicated.

***Pomaderris myrtilloides*** Fenzl in Endl. *et al.*, Enum. Pl. 22 (1837). TYPE: 'Ora orientalis, Ferd. Bauer'; HOLOTYPE: W.

*Pomaderris stenopetala* F. Muell., Fragm. 3: 69 (1862). TYPE: Pt Henry, Oldfield.; SYNTYPES & ISOSYNTYPES: K (2 sheets); MEL (2 sheets).

*Pomaderris myrtilloides* var. *major* Benth., Fl. Austral. 1: 419 (1863). SYNTYPES & ISOSYNTYPES as above.

*Many-branched shrub*, from 0.3–2 m high. *Stipules* narrowly triangular to subulate, 1–4 mm long. *Leaves* shortly petiolate, lamina obovate, elliptic or cuneate, 10–26 mm long, 7–15 mm wide; upper surface smooth and glabrous, or with a line of short hairs along the impressed midvein, or entirely covered by a mat of minute stellate hairs; margins plane, not differentiated on abaxial surface. *Inflorescence* 1.5–3.5 cm diam.; pedicels 3–8 mm long. *Flowers* cream to pale pink; sepals 2–3 mm long; petals narrowly lanceolate to oblanceolate, 1.3–2 mm long, 0.2–0.5 mm wide, glabrous or more commonly sparsely to densely silky pubescent abaxially. *Anthers* 0.5–0.8 mm long. *Style* 1–1.5 mm long, 3-lobed apically, the lobes to 0.3 mm long. *Capsule* obovoid, 4–4.5 mm long, exerted for about  $2/3$  of its length from the level of insertion of the sepals, 5-angled in the lower part; sepals deciduous in fruit. *Seed* flattened oblong-ovoid c. 2.5 mm long with a short basal aril.

#### ACKNOWLEDGEMENTS

I am grateful to Barbara Rye of PERTH for sharing her comments and notes on Western Australian *Pomaderris* species, to Roger Spencer and Mark Lee of the Royal Botanic Gardens, Melbourne, for their cooperation while on a collecting trip in south-west Western Australia, to Western Mining Pty Ltd for funding the trip, and to Mali Moir who prepared the accompanying illustration.

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Manuscript accepted 18 May 1993